

**Abstract**

[0051] The invention provides methods and apparatus for improving the direct current (DC) offset performance of an oversampling analog-to-digital (A/D) converter, including A/D converters that include an  
5 oversampling quantizer such as a single or multi-bit  $\Delta$ - $\Sigma$  modulator, successive approximation quantizer, flash quantizer, pipelined quantizer or other suitable oversampling quantizer. A customized buffer/amplifier  
10 may be inserted between an analog chopper and a signal processing chain. The customized buffer/amplifier is optimized for input noise and the signal chain compensates for poor DC performance. The result is a buffered analog-to-digital converter with both low  
15 input noise and very good DC accuracy.